New Zealand BioSecure

BORDER HEALTH NEWSLETTER

NOVEMBER 2025

NAU MAI, HAERE MAI - WELCOME!

Kia ora koutou katoa,

As we head into the holiday season, we hope you enjoy a restful break and time with loved ones. This time of year also brings a rise in mosquito activity, so we encourage everyone to stay vigilant and take simple protective measures while enjoying the summer months.

In the news this month, read about Japanese encephalitis being detected for the first time this season in Victoria, prompting authorities to treat mosquito-breeding sites and urge personal protection measures, with a free vaccine available for high-risk groups. Also learn about the situation in Cuba, where a widespread chikungunya and dengue outbreak across all 15 provinces has caused 33 deaths, including 21 children. New research from African statisticians shows that malaria prevention messages causally increase insecticide-treated net use in Uganda, with radio proving the most effective communication channel. Meanwhile, Novartis has introduced GanLum, the first malaria drug with a new mechanism in decades, demonstrating a 97.4% cure rate and strong activity against drug-resistant strains. Finally, read about the Global Virus Network awarding grants to support viral surveillance projects across Africa, Asia, and Latin America to bolster global preparedness.

Scroll down and learn a bit more about one of the species that was collected from an interception this month in the Know Your Mosquito segment.

Happy reading!

SURVEILLANCE

During November 1353 samples were collected by staff from 12 NPHUs (Figure 1). The samples included 220 positive larval samples and 40 positive adult samples, leading to a total of 8220 larvae and 77 adults identified over the past month (Table 1).

Culex pervigilans is the dominant larval species this month and November last year. Last month the dominant larval species was *Aedes notoscriptus* (Table 1).

In total, six mosquito species have been collected this month (Table 1), which is one less than last month.

Compared to this same month last year, the total number of larvae and adults have increased (120% and 85% respectively) (Table 1).

Compared to the previous month, mosquito larval numbers have shown an increase (68%) and adult numbers have shown a decrease (7% respectively).

The highest number of larvae sampled this month was obtained in Northland (5280 larvae) followed by Taranaki (1620 larvae) (Figure 1).

Table 1. Adult and larvae sampled by the New Zealand surveillance program during November 2024 & 2025

Species (common name)	Adults		Larvae	
	Nov 25	Nov 24	Nov 25	Nov 24
Aedes antipodeus (winter mosquito)	25	6	-	-
Ae notoscriptus (striped mosquito)	4	2	2770	1616
Culex asteliae (no common name)	-	-	32	-
Cx pervigilans (vigilant mosquito)	22	12	3629	1563
Cx quinquefasciatus (southern house mosquito)	17	18	783	533
Culex sp.	2	3	800	-
Cx pipiens spp. (including mixed features)	7	-	206	-
Opifex fuscus (rock pool mosquito)	-	-	-	31
Total	**77**	**41**	**8220**	**3743**

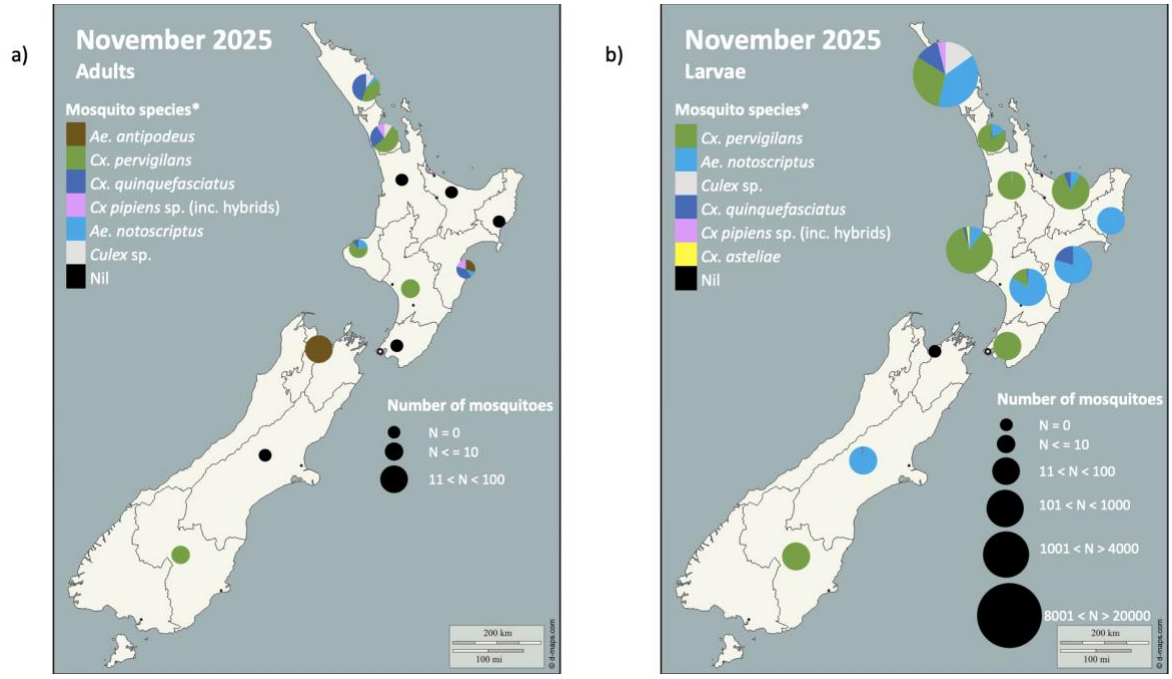


Figure 1. Total mosquito adults (a) and larvae (b) sampled in New Zealand during November 2025 surveillance period. Please note that the markers represent the NPHUs and not the specific sites where the samples have been taken.
* The mosquito species are listed in order from the most abundant to the least abundant.
Culex sp. refer to adult mosquitoes that are damaged and cannot be identified to the species level or larval instars that are not developed enough to be identified to species level.

Aedes notoscriptus larval numbers have shown an increase in seven NPHUs, a decrease in three NPHUs and was not collected in two NPHUs compared to November last year (Figure 2).

Aedes notoscriptus were not in Southland in November this year or last year. *Culex quinquefasciatus* remains absent in Southland this month, same as last year (Figure 2).

Culex quinquefasciatus larval numbers have shown an increase in four NPHUs, a decrease in four NPHUs, and not collected in six NPHUs compared to the same month last year (Figure 2).

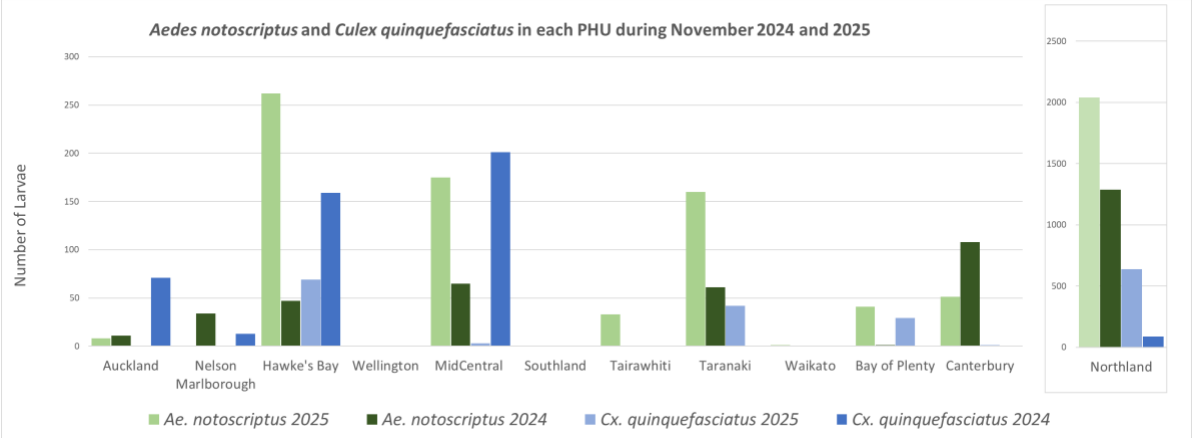


Figure 2. Comparison between introduced mosquito species sampled in each NPHU during November 2024 and 2025.
*Please note the different scale for the number of larvae present in Northland in comparison to the other NPHUs.

INCURSIONS AND INTERCEPTIONS

During November, HPOs responded to five suspected interceptions (Table 2), including various non-mosquitoes, and some with species from the unwanted list (in red).

Table 2. Suspected interceptions during November 2025

Date	Species	Location	Circumstances
05.11.2025	1 male *Culex pipiens* likely form *molestus*; 1 female *Culex pipiens* x *Culex quinquefasciatus*	Auckland International Airport	Two dead suspected mosquito specimens were collected inside an air can from Shanghai, China. Cargo hold was treated prior to departure.
06.11.2025	1 female *Anopheles annulipes;* 1 female *Culex* sp. (likely *annulirostris*) and various non mosquitoes	Bell Block, New Plymouth	An importer noticed live insects in the air filters of new agricultural machinery imported from Brisbane, Australia. They sprayed, collected them, and notified MPI via their hotline. A response was completed with no further exotics found.
19.11.2025	1 female *Cx quinquefasciatus* x *Cx pipiens* sp.	Auckland International Airport	Found alive on the ceiling above the Express Risk Assessment Desk 6, opposite to carousels 2 and 3 in arrival area. Specimen was not associated to any luggage.
21.11.2025	1 cranefly	Lineage Logistics, Christchurch	Found frozen on iced up walls of refrigerator container containing boneless pork imported from the USA.
24.11.2025	1 window gnat and 1 fungus gnat	Wellington International Airport	Dead insects found in a sticky trap on the quarantine processing bench at the airport.

CULEX PIPIENS AND MIXED FEATURES UPDATES

During November, multiple larvae and six adult *Culex pipiens* sp./*Culex* sp. showing mixed features were detected in four NPHUs (Table 3).

Table 3. *Culex pipiens* sp. and *Culex* sp showing mixed features collected during November 2025

November 2025	*Culex* sp. showing mixed features	*Culex pipiens* sp.			Total
	Female	Larvae	Male	Female	
Northland					
Marsden Point				1	**1**
Paihia		206			**206**
Auckland					
Auckland International Airport			1		**1**
Taranaki					
New Plymouth*				1	**1**
Port Taranaki				2	**2**
Hawke's Bay					
Napier Port	1			1	**2**
Grand Total	**1**	**206**	**1**	**5**	**213**

NEWS ARTICLES FROM AROUND THE WORLD

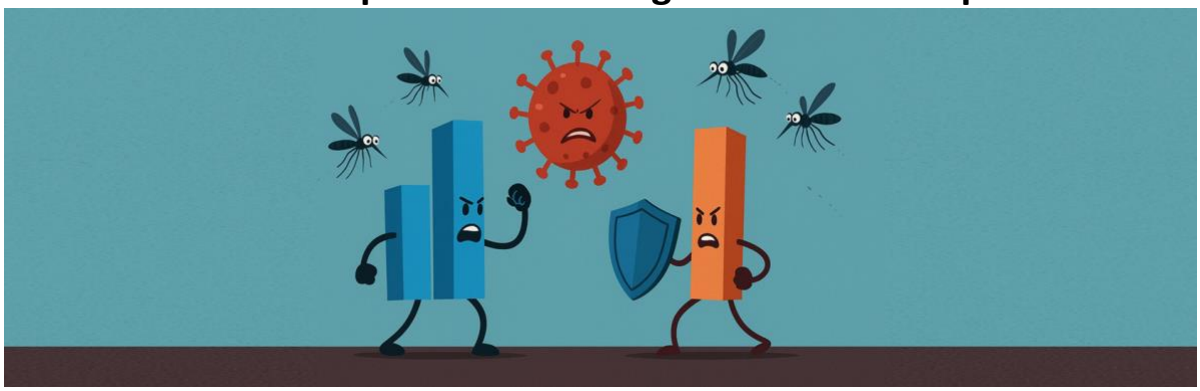
Victoria reports seasonal detection of Japanese encephalitis virus in mosquitoes

Japanese encephalitis virus (JEV) has been detected for the first time this season in Victoria, with the virus found in a mosquito trap near Horsham. JEV is a mosquito-borne virus that usually causes no or mild symptoms, but in rare cases can lead to severe brain infection, which may be fatal or cause long-term neurological effects. Health authorities are treating mosquito-breeding sites and urging people to protect themselves by using repellent, wearing long sleeves, avoiding dawn and dusk, and removing stagnant water. A free vaccine is available for eligible people at higher risk, and JEV cannot spread from person to person. Read more on this topic here.

Chikungunya and dengue outbreak across all Cuban provinces results in 33 fatalities

Cuba has reported 33 deaths, including 21 children, from mosquito-borne illnesses since July, with most linked to chikungunya and 12 to dengue, officials said. The chikungunya outbreak began in Matanzas province and quickly spread across all 15 provinces. Chikungunya typically causes severe joint pain, fever and fatigue, with symptoms appearing three to seven days after infection; most people recover within a week, though some experience long-term joint pain. While deaths are rare, severe illness is more likely in newborns, adults over 65 and people with underlying health conditions, according to the CDC. Read more on this topic here.

African statisticians provide new insights into malaria prevention

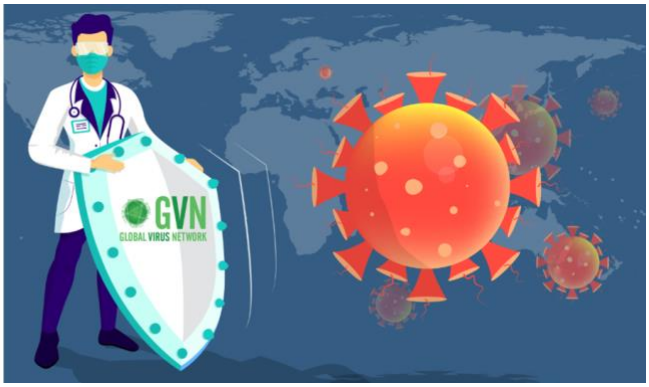


Edson Mwebesa, a biostatistician fellow at the Wits-based Sub-Saharan Africa Advanced Consortium for Biostatistics (SSACAB), used advanced causal inference methods to determine whether malaria prevention messages actually change behaviour in Uganda. By applying Propensity Score Matching to national survey data, he found that exposure to malaria messaging increased the use of insecticide-treated nets by 5.1% among women and 4.3% among children—showing measurable, causal impact rather than simple correlation. The study demonstrates how improved data systems and growing African statistical capacity now allow researchers to generate reliable, locally grounded evidence to guide malaria prevention strategies. It also highlights which communication channels are most effective, with radio reaching the most people and digital platforms remaining underused. Read more on this topic here. Access the full scientific article here.

Novartis develops first new malaria treatment in decades, effective against drug-resistant strains

Novartis has developed GanLum, the first new malaria treatment with a novel mechanism since 1999, containing the molecule ganaplacide, which the malaria parasite has never encountered and to which it has no existing resistance. In a late-stage trial involving over 1,600 patients across 12 sub-Saharan African countries, GanLum cured 97.4% of participants, outperforming existing treatments, and is administered once daily for three days. Beyond treating symptoms, the drug also targets the parasite during transmission, helping to prevent new infections and slow the spread of drug-resistant malaria. Experts say GanLum offers a critical new tool against growing artemisinin resistance, particularly in regions like Rwanda, Uganda, and Tanzania, where resistant strains have emerged, and regulatory approval could make the treatment available as early as 2027. Read more on this topic here.

Pandemic preparedness grants support viral surveillance and early detection worldwide



The Global Virus Network (GVN) is awarding $160,000 in pandemic preparedness grants to scientists across four continents to support projects on viral surveillance, early detection, and outbreak preparedness. Funded projects include dengue diagnostics in Senegal, virus discovery in elephants and mosquitoes in Sri Lanka, tick-borne virus profiling in Kenya, and wastewater surveillance for Lassa fever, dengue, and influenza using AI and genomic tools. GVN emphasizes that these awards build local research capacity and strengthen global readiness, helping scientists in frontline regions generate data-driven insights and respond more quickly and equitably to emerging infectious disease threats. Read more on this topic here. Access full article here.

KNOW YOUR MOSQUITO

Anopheles annulipes

Common name: Spear mosquito

- Is a species from Australia where it is very widespread
- Breeds in freshwater ground pools and particularly like waterbodies where there is a large amount of filamentous algae
- Average dispersal is considered less than 2km from their larval sites, however it has been recorded dispersing up to 6km away
- Active throughout most of the year with the exception of the colder months in winter
- Has a wide preference for hosts, and will bite humans though it is not considered a nuisance biter
- Is not considered an important vector of arboviruses of human health concern, though it is implicated to have been a vector for malaria when the disease was present in Australia
- Molecular studies suggest this species consists of multiple morphologically indistinguishable species

RISK MAPS

Dengue Map – Centres for Disease Control and Prevention
Zika Map – Centres for Disease Control and Prevention
Malaria – Centres for Disease Control and Prevention
Malaria – World Health Organisation

DISEASE OUTBREAKS

To find out where the latest disease outbreaks have occurred visit:

Epidemic and emerging disease alerts in the Pacific region - Produced by the Pacific Community (SPC) for the Pacific Public Health Surveillance Network (PPHSN).

Disease Outbreak News - World Health Organization.

Communicable disease threats report - European Centre for Disease Prevention and Control